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L18

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DB=USPT,PGPB,EPAB,DWPI; PLUR=YES; OP=OR

<u>L18</u>	L17 and arabitol	5	<u>L18</u>
<u>L17</u>	L15 and arabinose	78	<u>L17</u>
<u>L16</u>	L15 and (arabinose or arabitol)	85	<u>L16</u>
<u>L15</u>	L13 same hydrogenat\$4	771	<u>L15</u>
<u>L14</u>	L13 and hydrogenat\$4	1786	<u>L14</u>
<u>L13</u>	"sugar alcohol"	7757	<u>L13</u>
<u>L12</u>	L11 and hydrogenat\$4	9	<u>L12</u>
<u>L11</u>	pentitol same pentose	38	<u>L11</u>
<u>L10</u>	pentitol and pentose	76	<u>L10</u>
<u>L9</u>	pentinol same pentose	0	<u>L9</u>
<u>L8</u>	l1 and hydorgenat\$4	0	<u>L8</u>
<u>L7</u>	L5 and hydrogenat\$4	5	<u>L7</u>
<u>L6</u>	L5 same hydrogenat\$4	0	<u>L6</u>
<u>L5</u>	L3 same l1	43	<u>L5</u>
<u>L4</u>	L3 and l1	57	<u>L4</u>
<u>L3</u>	L-arabitol	99	<u>L3</u>

DB=USPT,PGPB; PLUR=YES; OP=OR

<u>L2</u>	L-arabinose	1865	<u>L2</u>
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DB=USPT,PGPB,EPAB,DWPI; PLUR=YES; OP=OR

<u>L1</u>	L-arabinose	2043	<u>L1</u>
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END OF SEARCH HISTORY

=> s L-arabinose
1194748 L
16621 ARABINOSE
66 ARABINOSES
16636 ARABINOSE
(ARABINOSE OR ARABINOSES)
L1 4157 L-ARABINOSE
(L(W)ARABINOSE)

=> s L-arabitol
1194748 L
1145 ARABITOL
5 ARABITOLS
1148 ARABITOL
(ARABITOL OR ARABITOLS)
L2 183 L-ARABITOL
(L(W)ARABITOL)

=> s 11 and 12
L3 73 L1 AND L2

=> s 13 and hydrogenation
146229 HYDROGENATION
1859 HYDROGENATIONS
146494 HYDROGENATION
(HYDROGENATION OR HYDROGENATIONS)
L4 4 L3 AND HYDROGENATION

=> d 14 1-4 kwic

L4 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2002 ACS
TI Process for conversion of oxidized sugars into hydrogenated sugars via catalytic **hydrogenation**
AB Catalytic **hydrogenation** of oxidized sugars into hydrogenated sugars in presence of Lewis acid, is reported. Thus, ruthenium-catalyzed **hydrogenation** of arabonic acid in presence of 2-anthraquinone sulfonic acid gave arabitol in good yield. L'erythrose, au threose, au sorbose, au xylose, a l'**arabinose**, au ribose, au ribulose, au xylulose, au glucose, au galactose, au fructose, au mannose, au maltose ou au lactose. Erythritol, le threitol, le ribitol, le xylitol, l'**arabitol**, mannitol, le sorbitol, l'iditol, le maltitol, le lactitol.
ST aldonic acid **hydrogenation** ruthenium alditol prep; alditol prep **hydrogenation** catalytic oxidized monosaccharide; arabonic acid **hydrogenation** ruthenium catalyzed arabitol prep
IT Carbohydrates, reactions
RL: RCT (Reactant)
(aldonic acids; conversion of oxidized sugars into hydrogenated alditols via catalytic **hydrogenation**)
IT **Hydrogenation**
 Hydrogenation catalysts
 (conversion of oxidized sugars into hydrogenated alditols via catalytic **hydrogenation**)
IT Alditols
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(conversion of oxidized sugars into hydrogenated alditols via catalytic **hydrogenation**)
IT Monosaccharides
RL: RCT (Reactant)
(conversion of oxidized sugars into hydrogenated alditols via catalytic **hydrogenation**)
IT 7439-88-5, Iridium, uses 7440-15-5, Rhenium, uses 7440-18-8, Ruthenium, uses
RL: CAT (Catalyst use); USES (Uses)
(conversion of oxidized sugars into hydrogenated alditols via catalytic **hydrogenation**)
IT 50-70-4P, D-Glucitol, preparation 69-65-8P, Mannitol 87-99-0P, Xylitol 149-32-6P, Erythritol 488-81-3P, Ribitol 585-86-4P, Lactitol 585-88-6P, Maltitol 2152-56-9P, Arabitol 7493-90-5P, Threitol 24557-79-7P, Iditol
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(conversion of oxidized sugars into hydrogenated alditols via catalytic **hydrogenation**)
IT 84-48-0, 2-Anthraquinone sulfonic acid 13752-83-5, Arabonic acid
RL: RCT (Reactant)
(conversion of oxidized sugars into hydrogenated alditols via catalytic **hydrogenation**)

L4 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2002 ACS
AB . . . by extn. with CHCl₃ of the unaltered resistant derivs. Products thus obtained in pure cryst. form include: di-O-isopropylidene D-mannose, D-xylose, L-**arabinose**, and D-galactose. Catalytic **hydrogenation** of these products yielded sirupy di-O-isopropylidene D-mannitol, which was converted by acid hydrolysis to cryst. D-mannitol, and cryst. xylitol, L-**arabitol**, and dulcitol.

L4 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2002 ACS
AB . . . into the corresponding 2-O-glycosylglycerol, the structure of which was then established. All oxidations were carried out in AcOH with Pb(OAc)₄; **hydrogenations** with NaBH₄. Unless otherwise stated

[.alpha.]D27 of substituted hexitols and pentitols were taken in H₂O; those of the benzoates were. . . taken by the KBr window technique, and were often used for purposes of identification; no actual absorption data are included. 3-O-.beta.-L-arabopyranosyl-L-arabinose (718 mg.) from larch arabogalactan was oxidized, treated with 10% (CO₂H)₂, filtered, and the evapd. filtrate dissolved in H₂O and. . . 2-O-.beta.-L-arabopyranosylglycerol, m. 154-5.degree., [.alpha.] 204.degree. (c 1.2); pentabenzoate, m. 48-50.degree., [.alpha.] 164.degree. (c 0.8). Treated similarly, with but slight modifications, 3-O-.alpha.-D-xylopyranosyl-L-arabinose (452 mg.), obtained from the autohydrolyzate of golden apple gum, gave 338 mg. 2-O-.alpha.-D-xylopyranosyl-L-erythritol, sirup, [.alpha.] 91.degree. (c 1.5); hexabenzoate, . . . [.alpha.] -37.degree. (c 1.1), and the pentabenzoate, m. 51-3.degree., [.alpha.] -36.degree. (c 0.9). Partial hydrolysis of corncob hemicellulose B gave 2-O-.beta.-D-xylopyranosyl-L-arabinose (II) from which was obtained, by direct reduction with NaBH₄, 2-O-.beta.-D-xylopyranosyl-L-arabitol, m. 185-7.degree. (from MeOH-EtOH), [.alpha.] -33.degree. (c 1.2), which by oxidation followed by reduction gave 2-O-.beta.-D-xylopyranosylglycerol, [.alpha.] -30.degree. (c 1.3); pentabenzoate, m. 51-3.degree., [.alpha.] -35.degree. (c 1.2). The partial hydrolysis of gum acacia gave 3-O-.alpha.-D-galactopyranosyl-L-arabinose, giving rise to 2-O-.alpha.-D-galactopyranosyl-L-erythritol, m. 156-8.degree., [.alpha.] 145.degree. (c 1.0), from which was formed 2-O-.alpha.-D-galactopyranosylglycerol, m. 131-2.degree. (from EtOH), [.alpha.]. . .

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2002 ACS
AB . . . on distn. in a high vacuum below 100.degree., probably on account of a small amt. of impurity acting catalytically. Catalytic hydrogenation of 5 g. L-arabinose in 40 cc. H₂O in the presence of Raney Ni (from 3 g. Ni-Al alloy) for 40 hrs. with the use of 745 cc. H₂ gave 4.5 g. of L-arabitol, m. 99-101.degree. (cor.). Degradation of benzal-L-arabitol with Pb (OAc)₄ yielded cryst. benzal-L-threose, C₁₁H₁₂O₄.0.5 H₂O, m. 119-20.degree. (cor.) from benzene-Et₂O. A mixt. of 4.0 g. II, 25. . .

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